

REMARKS

A total of 39 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed November 3, 2004, wherefore reconsideration of this application is requested.

By way of the above-noted amendments, claims 1-3, 6, 14-16, 27-29, 31 and 39 have been amended to more clearly define features of the present invention, and to address the Examiner's objections in claim 31. In particular, claims 1-3, 6, 14-16, 27-29 and 39 have been amended to define that the communications network comprises at least two adjoining Line Switched Rings. The person of ordinary skill in the art will recognise that a line switched ring (LSR) is a genus which includes bi-directional line switched rings (BLSRs). As such, the person of ordinary skill in the art will readily infer that the methods of the present invention, although described in the context of BLSRs, will apply equally to any network having an LSR architecture. As such, it is believed that the above-noted amendment in claims 1-3, 6, 14-16, 27-29 and 39 do not introduce new subject matter.

Referring now to the text of the Office Action:

- The specification stands objected to on the basis that the term "a respective pair of SAP nodes" of claims 1, 14 and 27 is not described in the disclosure or a well known term of the art.
- claims 14-39 stand rejected under 35 U.S.C. § 112 as failing to distinctly claim the subject matter of the present invention;
- claims 1-4, 13-17, 26-30 and 39 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent No. 5,058,105 (Mansour); and

- claims 5-12 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, applicant appreciates the Examiner's indication of allowable subject matter in claims 5-12. The Examiners rejection of claims 14-39 under 35 U.S.C. § 112 and 1-4, 13-17, 26-30 and 39 under 35 U.S.C. § 103(a) are believed to be traversed by the above-noted claim amendments, and further in view of the following discussion.

Objections to the Specification

At paragraph 1 of the detailed action, the Examiner asserts that "the term 'a respective pair of SAP nodes' of claims 1, 14 and 27 is not described in the disclosure or a well known term of the art." However, at paragraph 5 of the detailed action, the Examiner contradicts his own position by stating, with reference to claims 1, 14 and 27 "Official notice is taken that rings interconnected by a respective pair of matched SAP nodes is well known in the art ...". (underling added).

Obviously, the use of a pair of matched SAP nodes for interconnecting adjacent BLSR rings is either well known in the art, or it is not. It cannot be both. In any event, FIG. 1 and the accompanying description clearly shows a network formed by a pair of adjacent BLSRs (BLSR X and BLSR Y) interconnected by a matched pair of SAP nodes 4b and 4e. As such, Applicant respectfully submits that the claimed feature of "a communications network comprising at least two adjoining Line Switched Rings (LSRs) interconnected by a matched pair of Service Access Point (SAP) nodes" is clearly illustrated in the drawings and described in the specification.

Accordingly, withdrawal of the Examiner's objection to the specification is believed to be in order and such action is respectfully requested.

Claim rejections under 35 U.S.C. § 112

The Examiner has rejected claims 14-39 under 35 U.S.C. § 112 on the basis that the specification does not provide sufficient details about the structure and operation of the elements associated with the limitations to "means for searching for provisioned protection

bandwidth ..." to enable one skilled in the art to make and use the invention without undue experimentation. Applicant respectfully disagrees.

Communications networks built on a line switched ring (LSR) architecture are very well known in the art, as are the various network nodes (including, but not limited to, service access points) used in such networks. Similarly, the functional features of network management systems commonly used in such networks are well known. As such, when presented with the teaching of the present invention, the skilled artisan will have no difficulty whatsoever identifying various ways in which the claimed functional elements ("means for searching for provisioned protection bandwidth ...") can be furnished, all of which can reasonably be expected to work. Thus, for example, the person of ordinary skill in the art would have no difficulty, based on the teaching of the present specification, implementing software changes such that each network node performs the claimed functions. Little, if any experimentation would be required in this endeavour.

Accordingly, it is respectfully submitted that the specification is fully enabling. As such, withdrawal of the Examiner's rejections under 35 U.S.C. § 112 is believed to be in order and such action is respectfully requested.

Claim rejections under 35 U.S.C. § 103(a)

In support of his rejections under 35 U.S.C. § 103(a), the Examiner asserts that United States Patent No. 5,058,105 (Mansour) teaches all of the elements of claims 1, 14 and 27, except for the limitation to rings interconnected by a respective matched pair of SAP nodes. Applicant respectfully disagrees. In fact, Mansour does not teach or suggest any of the elements of claims 1, 14 and 27. In particular:

- Mansour does not teach or suggest "a communications network comprising at least two adjoining line switched rings" as required by the present invention. Rather, the person of ordinary skill in the art will immediately recognise that the network of Mansour is built on a mesh architecture. While it is always possible to join links in a mesh network to form one or more closed loops, as the Examiner proposes in paragraph 6 of the detailed action, it does not follow that such loops

have any relevance to the operation of the network, or that such loops are in any way similar to line switched rings.

In that respect, the Examiner's assertion (in paragraph 9 of the Detailed Action) that it would be obvious to use BLSRs in the system of Mansour is unfounded, at least because: conventional BLSRs already have an automatic protection switching function that renders the system and methods of Mansour redundant; and the conventional BLSR protection switching functionality operates on a line-by line basis, and is therefore incapable of the traffic splitting function described by Mansour. As such, the person of ordinary skill in the art would not attempt to apply the system and methods of Mansour to a conventional BLSR (or LSR, for that matter) network, because such a combination would not be expected to work.

- Mansour does not teach or suggest searching for "provisioned protection bandwidth within a current LSR" as required by the present invention. Mansour does not even consider the possibility of LSRs or a ring-type network topology, nor does Mansour attempt to search for "provisioned protection bandwidth". Instead, Mansour teaches that a link table (FIG. 2) is searched to identify, hop-by-hop, every path through the network between two identified failure-end nodes. The shortest path is selected as a "first order of connectivity", and traffic from the failed link forwarded through the path, limited only by the availability of "spare" capacity on that path.
- Mansour does not teach or suggest searching for provisioned protection bandwidth within an adjoining LSR, if provisioned protection bandwidth is not found within the current LSR. Instead, Mansour teaches that, if the spare capacity of the shortest path is insufficient to support the entire traffic originally traversing the failed link, then the original traffic is divided and transported through each of the first and higher orders of connectivity (paths of progressively longer length) based on the availability of "spare" capacity on each involved path. The Skilled artisan will recognise that conventional LSR protection switching functionality

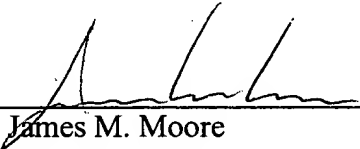
works on a line-by-line basis, with the result that traffic splitting of the type described by Mansour is simply not possible in an LSR network.

In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 16-0820, Order No. 36603.

Respectfully submitted,

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